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09/982,741	10/17/2001	Matthew T. Scholz	54402US028	7855

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EXAMINER

EGAN, BRIAN P

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

09/982,741

### Applicant(s)

SCHOLZ ET AL.

### Examiner

Brian P. Egan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-20 and 23-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-20 and 23-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/18/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *35 U.S.C. 1.32 Declaration*

1. The declaration under 37 CFR 1.132 filed May 18, 2004 is accepted by the examiner and is sufficient to make the proposed changes to the specification with regards to the test procedure for measuring the static and dynamic coefficients of friction.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-7, 14-16, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reeves et al. (#5,491,015) in view of Fetterman (#5,178,176).

Reeves et al. teach an article adapted for interaction with hands or feet (Col. 24, line 32) (which broadly encompasses medical drapes) comprising a backing layer having a first surface and a second surface (see Fig. 1), where projected from the first surface of the backing layer is an array of stems (see Fig. 1) which are integrally formed with the backing layer (Col. 3, lines 48-51) wherein at least a portion of the exterior surface of the exterior surface of the stems comprises a thermoplastic elastomeric material selected from polyvinyls, polyurethanes, polyesters, polyacrylics, polycarbonates, polyolefins, and mixtures thereof (Col. 5, lines 24-30). Polyurethane is preferably used (Col. 5, line 27-28). The aspect ratio of the stems on the first surface of the backing layer is at least about 1.25 ("an aspect ratio which is from about 0.1 to about 5" – Col. 5, lines 18-19). Given

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that the height of the stems range from 75 to 750 microns (Col. 4, line 63 to Col. 5, line 3) and the aspect ratio is between 0.1 and 5 (Col. 5, lines 18-19), the cross sectional diameter of the stems range between 150 to 750 microns (i.e., 0.15 to 0.750mm). The stems are generally upstanding (see Fig. 1). The article further comprises a fabric reinforcing layer (which broadly encompasses both woven and non-woven scrim material) (Col. 5, lines 51-52).

Although Reeves et al. teach that the polyurethane substrate exhibits high slip control with an optimal combination of high toughness and durability coupled with high softness and flexibility (Col. 5, lines 27-30), Reeves et al. fail to explicitly teach the coefficient of friction in wet and dry conditions. It is notoriously well known in the art, however, that polyurethanes are selected to exhibit frictional forces on a desired substrate since they exhibit a coefficient of friction of 1.0 or greater when dry and a C.O.F. of 0.9 or greater when wet as evidenced by Fetterman (Col. 5, lines 3-6). Fetterman further teaches that the polyurethane as detailed in his specification exhibits a shore A hardness of approximately 55 (which falls within the range of "about" 50 shore A hardness (i.e., the terms "approximately" and "about" are inclusive of the values surrounding those points)) (Col. 5, lines 7-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to select a polyurethane in Reeves et al. that exhibits a C.O.F. of at least 1.0 when dry, a C.O.F. within 10% of that value for the C.O.F. when wet, and a shore A hardness of less than about 50, since it is notoriously well known in the art to select a polyurethane exhibiting the aforementioned properties for optimal frictional properties. Furthermore, given the material equivalence between the applicant's claimed invention and the disclosures of Reeves et al. and

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Fetterman, it would have been obvious to one of ordinary skill in the art that the upstanding stems of Reeves et al. would exhibit a dynamic sheer strength within the applicant's claimed range of at least 112,034 dynes per centimeter squared.

4. Claims 8-13, 17-18, 20, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reeves et al. (#5,491,015) in view of Fetterman (#5,178,176), and further in view of Crawley et al. (#5,948,707).

Reeves et al. and Fetterman teach a medical drape as detailed above. The aforementioned prior art is silent as to whether the stems may be located on both sides of the substrate and is also silent as to the stem density on the substrate.

Crawley et al., however, teach a medical drape (Col. 5, line 6) comprising a backing layer having a first surface and a second surface (Fig. 1, #12), where projecting from the first surface of the backing layer is an array of stems (Fig. 1, #15; Col. 4, lines 5-13), wherein at least a portion of the exterior surface of the stems comprises a thermoplastic elastomeric material (Col. 8, lines 15-17). The stems of the drape are generally upstanding and have a static coefficient of friction of at least 0.6 (Col. 3, lines 49-57). The medical drape further comprises a second backing layer adjacent to the second surface of the first backing layer (Fig. 1, #16) where projecting from the second backing layer is a second array of stems, the second array of stems comprising an elastomeric material (Col. 8, lines 44-47). The density of the stems on the first surface of the backing layer is at least 15.5 stems/cm<sup>2</sup> (See Example 2; given a diameter of 0.53mm and the fact that the stems can be distributed to cover 5-95% of the surface area (Col. 7, lines 11-15), 15.5 stems/cm<sup>2</sup> would only cover 3.47% of the surface area (radius = 2.65mm,  $\pi \times 2.65^2 \times 15.5 \text{ stems} = 3.417\text{mm}^2 = 0.03417\text{cm}^2$ ,  $0.03417 \times 100 = 3.417\%$  of

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surface area covered with 15.5 stems) therefore, to cover at least 5% of the surface area, there will have to be more than 15.5 stems/cm<sup>2</sup>). Crawley et al. teach the aforementioned stem density and the use of frictional stems on both sides of a substrate for the purpose of providing a medical drape with improved non-slip characteristics (see Abstract). It would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have combined the teachings of the aforementioned prior art along with Crawley et al. since each of the aforementioned references are analogous insofar as being directed at substrates with improved frictional properties.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the aforementioned prior art to include a stem density greater than 15.5 stems per square centimeter and to provide stems on both sides of the substrate as taught by Crawley et al. in order to provide a medical drape with improved non-slip characteristics.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reeves et al. (#5,491,015) in view of Fetterman (#5,178,176), and further in view of Ogden (#5,607,745).

Reeves et al. and Fetterman detail a medical drape as discussed above. The aforementioned prior art fails to teach the use of micro channels between the stems along at least a portion of the exterior of the first face of the backing layer.

Ogden, however, teaches the use of micro channels along a frictional substrate (see Figs. 2-3, #20). Ogden teaches the use of micro channels for the purpose of providing improved slip resistance to the substrate by allowing moisture to be wicked away through the apertures (Col. 2, lines 49 to 63). It would have been obvious to one of

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ordinary skill in the art at the time Applicant's invention was made to have combined the teachings of the aforementioned prior art and Ogden since each of the aforementioned references are analogous insofar as being directed at substrates with improved frictional properties.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the aforementioned prior art to include micro channels in the stemmed substrate as taught by Ogden in order to provide improved slip resistance to the substrate by allowing moisture to be wicked away through the apertures.

6. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reeves et al. (#5,491,015) in view of Fetterman (#5,178,176), and further in view of Chen (#3,972,328).

Reeves et al. and Fetterman teach a medical drape as described above. The aforementioned prior art fails to teach the addition of an antioxidant to the elastomeric material of the drape.

Chen, however, teaches a surgical bandage that comprises an antioxidant (butylated hydroxytoluene or butylated hydroxyanisole) for the purpose of prolonging the shelf life of the bandage (Col. 2, lines 3-7 and lines 44-48). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time applicant's invention was made to have combined the teachings of the aforementioned prior art with the teachings of Chen since each of the aforementioned references are analogous insofar as being directed at substrates that are expected to last over a considerable amount of time.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have modified the aforementioned prior art to include antioxidants in the elastomeric material of the medical drape as taught by Chen in order to prolong the shelf life of the drape.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-3, 5-20, and 23-27 have been considered but are moot in view of the new ground(s) of rejection.

The Applicant's remarks with regards to the use of Crawley et al. as a primary reference have been deemed persuasive. The Examiner agrees that Crawley et al. fail to teach stems that are integral with the backing layer and a stemmed layer comprising micro channels. The Examiner, however, does maintain that Crawley et al. broadly encompass stems with larger aspect ratios than the aspect ratio of 1.0 asserted by the Applicant.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 571-272-1491. The examiner can normally be reached on M-F, 8:30-5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
BPE 7/17/04

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

7/19/04